ELISA

- Enzyme-linked Immunosorbant Assay
- Detects the presence of minutes quantities of either an antibody or an antigen
- Important diagnostic tool in many areas of science and industry

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Basics of ELISA

- The solution to be tested is “unknown” in that it might or might not contain the substance (antigen) of interest.
- Samples of the unknown solution are placed into small wells (usually polystyrene).
- Particles (including the antigen, if present) adsorb to the surfaces of the wells.

2

Basics of ELISA (cont.)

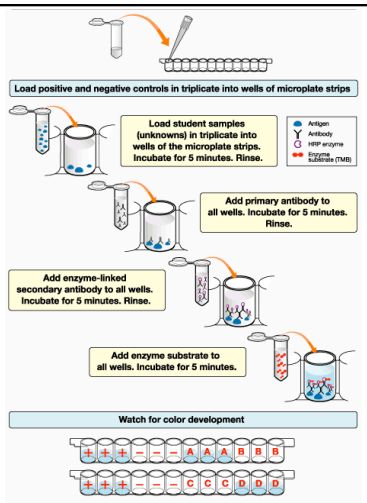
- Primary antibodies (specific for the antigen of interest) are added to the wells.
- Primary antibodies will attach only to the antigen; if no antigen is present, the primary antibodies will be washed away.
- Secondary antibodies (specific for the primary antibodies) are added to the wells.
- Secondary antibodies are linked to enzymes.

3

Basics of ELISA (cont.)

- Secondary antibodies will remain only if primary antibodies (and therefore antigens) are present.
- Substrate (specific for the linked enzyme) is added.
- If secondary antibodies are present, their enzymes will convert the substrate to some product.
- If product is detected, it indicates that antigen was present in the unknown solution.

4



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